## **ABSTRACT**

The present invention relates to the nucleic acid molecules encoding an STE20-related family of novel protein kinases, ZC1, ZC2, ZC3, ZC4, STLK2, STLK3, STLK4, STLK5, STLK6, STLK7, KHS2, SULU1, SULU3, GEK2, PAK4 and PAK5, segments and domains thereof, as well as various methods useful for the diagnosis and treatment of various kinase-related diseases and conditions. Mammalian nucleic acid molecules encoding these kinases are particularly disclosed, and more specifically human sources of these nucleic acids are disclosed.